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Study on PLC Systems' TMR Therapy With Stem Cells Presented at ESC 2009

Initial Safety and Feasibility Study Indicates Improved Cardiac Function

FRANKLIN, Mass., Sept. 14 /PRNewswire-FirstCall/ -- PLC Systems Inc. (OTC Bulletin Board: PLCSF), a company focused on innovative cardiac and vascular medical device-based technologies, today announced that a paper on a clinical study utilizing its Transmyocardial Laser Revascularization (TMR) therapy in conjunction with autologous stem cells was presented at ESC Congress 2009, the annual meeting of the European Society of Cardiology, in Barcelona, Spain.

This study is designed to examine the safety and feasibility of transplanting stem cells during TMR used in combination with coronary bypass grafting in patients with end-stage heart failure. According to the initial results of the study, this procedure was effective in improving cardiac function, as assessed by echocardiography and magnetic resonance imaging prior to therapy and post surgery, as well as three, six and twelve months afterwards. In addition, the treatment thus far has proven feasible and safe; no intra- or post-operative major adverse cardiac events occurred in the patients enrolled in the study.

This investigator-sponsored study, called INSTEM, is on-going in Germany under the leadership of Dr. Hans-Michael Klein, Associate Professor in the Department of Thoracic and Cardiovascular Surgery at Dusseldorf Medical School in Germany, who presented the initial results at a session on Saturday, August 29th.

Mark R. Tauscher, president and chief executive officer of PLC Systems, said, "We have been monitoring the work of Dr. Klein and others in utilizing our TMR therapy in conjunction with stem cells for some time, and thus we are quite pleased to see the positive initial results of his clinical study presented to an important audience like ESC. Should such a therapy be proven effective, it would provide a new avenue of treatment for heart failure patients, who number approximately 5 million in the U.S. alone and millions more worldwide."

"The combination of CD133+ stem cell transplantation and surgical myocardial revascularization promises to be a new and enhanced causal therapy of severe ischemic cardiomyopathy," stated Dr. Klein. "Although the follow-up has not yet been completed, we can strongly suppose that this procedure significantly augments improvement in left ventricle function."

About PLC Systems Inc.

PLC Systems Inc. is a medical technology company specializing in innovative technologies for the cardiac and vascular markets. Headquartered in Franklin, Massachusetts, PLC pioneered the CO2 Heart Laser System, which cardiac surgeons use to perform CO2 transmyocardial revascularization (TMR) to alleviate symptoms of severe angina. PLC's

newest product, RenalGuard(R), is approved for sale in the EU as a general fluid balancing device. Additional company information can be found at www.plcmed.com.

This press release contains "forward-looking" statements. For this purpose, any statements contained in this press release that relate to prospective events or developments are deemed to be forward-looking statements. Words such as "believes," "anticipates," "plans," "expects," "will" and similar expressions are intended to identify forward-looking statements. Our statements of our objectives are also forward-looking statements. While we may elect to update forward-looking statements in the future, we specifically disclaim any obligation to do so, even if our estimates change, and you should not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this press release. Actual results could differ materially from those indicated by such forward-looking statements as a result of a variety of important factors, including that the final results of the INSTEM trial may be different from the initial trial results, the combination of TMR and stem cell therapy may not be adopted widely or at all in clinical practice, we may be unable to raise sufficient funds in the future to implement our business plan, operational changes, competitive developments may affect the market for our products, regulatory approval requirements may affect the market for our products, and additional risk factors described in the "Forward Looking Statements" section of our Annual Report on Form 10-K for the year ended December 31, 2008, and our other SEC reports.

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